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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.            | CONFIRMATION NO.       |
|--|-------------|----------------------|--------------------------------|------------------------|
| 10/560,273   | 07/13/2006  | Elwood G Norris      | 00025-22010                    | 3473                   |
| 20551 7590 05/21/2007<br>THORPE NORTH & WESTERN, LLP.<br>8180 SOUTH 700 EAST, SUITE 200<br>SANDY, UT 84070 |             |                      | EXAMINER<br>MONIKANG, GEORGE C |                        |
|  |             |                      | ART UNIT<br>2615               | PAPER NUMBER           |
|  |             |                      | MAIL DATE<br>05/21/2007        | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/560,273

Applicant(s)

NORRIS ET AL.

Examiner

George C. Monikang

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/30/2006: 7/13/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4-7, 10-13, 15-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Schrage, US Patent Pub. 2002/0101360 A1. (Reference US Patent Pub. 2002/0101360 A1 has been cited in IDS filed 6/30/2006 by applicant.)

Re Claim 1, Schrage discloses a system for providing audio information to persons in an approach path (abstract), comprising: a. an interaction point (abstract); b. an approach path, leading to the interaction point (abstract); and c. a parametric sound system (abstract), including a parametric speaker disposed adjacent to the interaction point (fig. 4: 126, para 0080), the parametric sound system being configured for limited delivery of sound in a spatially limited audio zone along the approach path and within a decibel level above ambient noise levels in the area of the interaction point (abstract), and sufficiently high to be heard primarily by a person progressing along the approach path (abstract).

Re Claim 2, Schrage discloses a system in accordance with claim 1, wherein the interaction point is selected from the group consisting of a point of decision (fig. 1: Red Light).

Re Claim 4, Schrage discloses a system in accordance with claim 1, further comprising a detection device, configured to detect the presence of a person entering the approach path (abstract: range sensing device).

Re Claim 5, Schrage discloses a system in accordance with claim 1, further comprising a controller (para 0032), for controlling the parametric sound system, and an input device, configured to allow input from a person to the control system (para 0110: microphone).

Re Claim 6, Schrage discloses a system in accordance with claim 1, further comprising a controller, for controlling the parametric sound system (para 0032), configured to receive an audio signal and combine the audio signal with an ultra-sonic carrier wave (para 0030), and to cause the parametric speaker to broadcast the combined audio signal and carrier wave (abstract).

Re Claim 7, Schrage disclose a system in accordance with claim 1, further comprising further comprising a visual display (fig. 7; para 0102), coupled to the parametric sound system, viewable by a person within the approach path (fig. 7; para 0102), the system being configured to broadcast audio information corresponding to the output of the visual display (fig. 7; para 0102).

Re Claim 10, Schrage discloses a system in accordance with claim 1, further comprising a null zone, encompassing a region outside the audio zone, wherein sound from the parametric sound system is substantially inaudible (para 0025).

Re Claim 11, Schrage discloses a system in accordance with claim 1, wherein the parametric sound system comprises a plurality of parametric speakers (fig. 9),

configured to broadcast sound to a substantially linear audio zone from a position substantially off a linear axis of the audio zone (fig. 13).

Re Claim 12, Schrage discloses a system in accordance with claim 1, wherein the parametric sound system is configured to broadcast sound to cover an audio zone of asymmetric configuration (fig. 13).

Re Claim 13, Schrage discloses a system in accordance with claim 12, wherein the parametric sound system comprises a plurality of parametric speakers, configured to cover the asymmetric audio zone (fig. 13).

Re Claim 15, Schrage discloses a system in accordance with claim 12, wherein the parametric sound system comprises a parametric speaker having beam steering components, such that a single speaker can cover the asymmetric audio zone (fig. 18; para 0107).

Re Claim 16, Schrage discloses a system in accordance with claim 1, wherein the parametric sound system is configured to focus ultra-sonic energy substantially along a line in the audio zone (para 0030), so that a relative amount of parametric activity at any location along the line dissipates at approximately a rate of dissipation of sound as distance from the speaker increases (para 0025).

Re Claim 17, Schrage discloses a system in accordance with claim 1, further comprising interconnection to a network (claim 37), such that the system broadcasts audio information that is common to a plurality of additional audio information systems that are interconnected to the network in a plurality of locations (claim 30).

Re Claim 18, Schrage discloses a system in accordance with claim 1, further comprising a plurality of audio information systems in close proximity to the system (claim 30), each audio information system being configured to broadcast audio information within a unique approach path (claim 30), such that the sound broadcast by each system is substantially limited to the unique approach path associated therewith (claim 30), and is substantially inaudible to persons in adjacent approach paths (para 0025).

Re Claim 19, Schrage discloses a system in accordance with claim 18, wherein each audio information system includes a controller (para 0032), for controlling the parametric sound system, configured to receive an audio signal and combine the audio signal with an ultra-sonic carrier wave (para 0030), and to broadcast the combined audio signal and carrier wave via the parametric speaker (abstract).

Re Claim 20, Schrage discloses a system for protecting persons from undesired sound, comprising a parametric speaker (abstract), configured to produce an audio zone wherein sound from the parametric speaker is audible (abstract; para 0025), and to produce a null zone wherein sound from the parametric speaker is substantially inaudible (para 0025), the null zone being configured to substantially protect persons in the null zone from sound from the parametric speaker (para 0025).

Re Claim 21, Schrage discloses a system in accordance with claim 20, wherein the parametric speaker is configured to broadcast sound along an axis of propagation that is substantially coincident with an approach path of persons toward a point of transaction (fig. 1; fig. 11).

Re Claim 22, Schrage discloses a system in accordance with claim 20, wherein the null zone is configured to substantially cover a personnel location (para 0025).

Re Claim 23, Schrage discloses a system in accordance with claim 22, wherein the personnel location is selected from the group consisting of a point of inquiry, a point of decision (fig. 1: Red Light).

Re Claim 24, Schrage discloses a method for protecting persons in a localized area from undesired sound, comprising the steps of: a. orienting a parametric speaker to selectively produce sound along an axis so as to create an audio zone (abstract) and a null zone (para 0025); and b. manipulating the null zone to cover a localized area (para 0025), and to protect persons in the localized area from sound from the parametric speaker (para 0025).

Claim 25 has been analyzed and rejected according to claim 22.

Claim 26 has been analyzed and rejected according to claim 23.

Re Claim 27, Schrage discloses a method for maintaining a substantially constant sound level along an audio path, comprising the step of broadcasting sufficient ultra-sonic energy along a path using a parametric speaker (abstract; para 0030) so that a relative level of parametric activity along the path dissipates approximately at a rate of dissipation of sound as distance from the speaker increases (para 0025).

Re Claim 28, Schrage discloses a method in accordance with claim 27, further comprising the step of correlating an amount of convergence of ultra-sonic energy along the audio path with a rate of dissipation of ultrasonic energy along the audio path (para 0097), so as to define a plurality of sound focal points along the audio path (fig. 10).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 8-9 & 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrage, US Patent Pub. 2002/0101360 A1. (Reference US Patent Pub. 2002/0101360 A1 has been cited in IDS filed 6/30/2006 by applicant.)

Re Claim 3, Schrage discloses a system in accordance with claim 1, but fails to disclose wherein the decibel level of the audible sound is above about 75 dB.

However, such limitation is the inventor's preference thus it would have been obvious for Schrage to modify system for providing audio information to persons for the motivation of providing a decibel level above ambient noise levels.

Re Claim 8, Schrage discloses a system in accordance with claim 7, but fails to disclose wherein the interaction point comprises a cashier station, the approach path comprises a customer waiting line adjacent to the cashier station, and the parametric sound system and video display are disposed between the customer waiting line and the cashier station, such that a person at the cashier station is substantially outside the audio zone.



However, such limitations are the inventor's preference thus it would have been obvious for Schrage to modify system for providing audio information to persons for the motivation of providing audio information to persons in a check out stand.

Re Claim 9, Schrage discloses a system in accordance with claim 8, further comprising a null zone, encompassing the cashier station, such that sound from the parametric sound system is substantially inaudible to the person at the cashier station (para 0025).

Claim 29 has been analyzed and rejected according to claims 1, 7 & 8.

Claim 30 has been analyzed and rejected according to claims 1, 7-9.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schrage, US Patent Pub. 2002/0101360 A1 as applied to claim 12 above, in view of Bauer, US Patent 5,832,438. (Reference US Patent Pub. 2002/0101360 A1 has been cited in IDS filed 6/30/2006 by applicant.)

Re Claim 14, Schrage discloses a system in accordance with claim 12, wherein speakers are configured to broadcast sound to cover the asymmetric audio zone (fig.

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13) but fails to disclose wherein the parametric sound system comprises a parametric speaker having a curved emitter surface. However, Bauer does (col. 8, lines 33-40).

Taking the combined teachings of Schrage and Bauer as a whole, one skilled in the art would have found it obvious to modify the system in accordance with claim 12, wherein speakers are configured to broadcast sound to cover the asymmetric audio zone (fig. 13) of Schrage with wherein the parametric sound system comprises a parametric speaker having a curved emitter surface as taught in Bauer (col. 8, lines 33-40) to provide a system that will attract attention.

### **Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Monikang whose telephone number is 571-270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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5/11/2007



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